

COMPUTER BASED TEST–2023
PAPER - I
FISHERIES TECHNOLOGY AND NAVIGATION
(DIPLOMA STANDARD)

1. Which of the following statement is true about Turtle Excluder Device (TED) in many tropical and subtropical shrimp fisheries?
- (A) The TED was first developed in 1960s
 - (B) The TED was first developed in 1950s
 - (C) The TED was first developed in 1970s
 - (D) The TED was first developed in 1940s
 - (E) Answer not known
2. Choose the right match :
- | | |
|---|---------|
| 1. Quantitative Restrictions | – QRs |
| 2. World Trade Organisation | – WTO |
| 3. General Agreement on trade and tariffs | – GATT |
| 4. Trade Related Intellectual Measures | – TRIMS |
- (A) 1 and 2 (B) 2 and 3
(C) 2 and 4 (D) 3 and 4
(E) Answer not known
3. Business economics uses economic theory to solve
- (A) Public finance and distribution problems
 - (B) Consumers problems
 - (C) Business decision making problems
 - (D) Input supply problems
 - (E) Answer not known

4. Match the following:

- | | |
|-----------|--------------|
| (a) ICAR | 1. Kochi |
| (b) NBFGR | 2. Rome |
| (c) CIFT | 3. New Delhi |
| (d) FAO | 4. Lucknow |

- | | (a) | (b) | (c) | (d) |
|---|------------------|-----|-----|-----|
| (A) | 1 | 2 | 3 | 4 |
| (B) | 4 | 1 | 2 | 3 |
| <input checked="" type="checkbox"/> (C) | 3 | 4 | 1 | 2 |
| (D) | 2 | 3 | 4 | 1 |
| (E) | Answer not known | | | |

5. In which agencies implemented the development of freshwater aquaculture and brackish water aquaculture?

- | | |
|--|----------|
| <input checked="" type="checkbox"/> (A) FFDA | (B) NCDC |
| (C) CIFT | (D) GPS |
| (E) Answer not known | |

6. _____ is an inter governmental organization mandated to enhance cooperation among member countries for sustainable coastal fisheries development and management in the Bay of Bengal region.

- | | |
|--|----------|
| <input checked="" type="checkbox"/> (A) BOBP | (B) NAFO |
| (C) SEAFDEC | (D) IMO |
| (E) Answer not known | |

7. Which among the following statements are true about mechanised sector?
- (i) Growth rate of trawlers is increasing at a slower rate
 - (ii) Displayed a major boom during 1980 and 1990
 - (iii) Boats with oal of 15 m and above are not suited for multiday fishing
 - (iv) Increasing trend of mechanized boats phased out Non–mechanised units atleast in certain regions
- (A) (i) and (ii) ~~(B)~~ (ii) and (iv)
(C) (iii) and (iv) (D) (i) and (iii)
(E) Answer not known
8. Which of the following is defined as the value of return sacrificed of foregone from the next best alternative activity?
- (A) Social cost (B) Establishment cost
~~(C)~~ Opportunity cost (D) Deflated cost
(E) Answer not known
9. Expand RAWE:
- (A) Rural Agricultural Work Experience
 - ~~(B)~~ Rural Awareness Work Experience
 - (C) Regional Aquaculture Work Enterprise
 - (D) Regional Agricultural Women Empowerment
 - (E) Answer not known

10. Assuming that others are _____, the fallacy of composition, and interpreting association as causation are three commonly made errors in economic analysis.

- (A) intelligent (B) ignorant
(C) selfish (D) important
(E) Answer not known

11. Which of the following serves as Angiotensin Converting Enzyme (ACE) inhibitor?

- (A) Peptide (B) EPA
(C) Collagen (D) Chitin
(E) Answer not known

12. Which of the following is incorrectly paired?

- (i) SFC – State Finance Cooperatives of India
(ii) NCDC – National Cooperative Development Corporation
(iii) ICICI – Industrial Credit and Investment Cooperatives of India
(iv) IFCI – Industrial Financial Corporation of India
 (A) (i) and (iii) (B) (i) and (ii)
(C) (ii) and (iii) (D) (iii) and (iv)
(E) Answer not known

13. Consider the following statements about the malpe fisher womens' cooperative society limited.
- (A) Based at Mysore, Karnataka
 - (B) Assistance with the sale and purchase of salt
 - (C) Registered as a cooperative in 1978
 - (D) Non – Access to housing loan
 - (E) Answer not known
14. The Apex level National Cooperative Federation – FISHCOP FED is registered during 1980 in
- (A) New Delhi
 - (B) Mumbai
 - (C) Kolkata
 - (D) Chennai
 - (E) Answer not known
15. Identify the major problems faced by experters:
- (i) Shortage of raw materials
 - (ii) Unhygienic landing centre and fishing ports
 - (iii) Identification of buyer with integrity
 - (iv) High Tariff
- (A) (i) only
 - (B) (i) and (ii) only
 - (C) (i), (ii), (iii) only
 - (D) (iv) only
 - (E) Answer not known

16. Suppose the demand equation is given by $Q_d = 1000 - P$ and supply equation is given by $Q_s = 100 + 4P$. Find the equilibrium price.

- (A) $P = 160$ (B) $P = 180$
(C) $P = 170$ (D) $P = 200$
(E) Answer not known

17. Which signifies the aggregate of real productive resources absorbed in the production of fishery products?

- (A) Opportunity cost (B) Junk cost
 (C) Real cost (D) Money cost
(E) Answer not known

18. The demand for the product is considered to be elastic when the absolute value of price elasticity is

- (A) >1 (B) <1
(C) $=1$ (D) $=0$
(E) Answer not known

19. When 1% change in price calls forth 5% decrease in quantity demanded, the commodity has a _____ price elastic demand.

- (A) medium (B) highly
(C) low (D) no
(E) Answer not known

20. Consider the following statements about cost concept.
- (A) Explicit costs are self owned cost
 - (B) Variable cost does not vary with the variation of output
 - (C) Fixed cost vary with the variation of output
 - (D) Average cost is the cost of producing a single unit
 - (E) Answer not known
21. The cost which a producer spends towards production process are called as
- (A) Opportunity cost
 - (B) Money cost
 - (C) Fixed cost
 - (D) Variable cost
 - (E) Answer not known
22. The vertical distance between the moulded base line and top of the beams of upper most continuous deck is termed as
- (A) Waterline
 - (B) Load waterline
 - (C) Draft draught
 - (D) Depth
 - (E) Answer not known
23. Catalyst is used in the construction of boat with
- (A) Wood
 - (B) Steel
 - (C) FRP
 - (D) Aluminium
 - (E) Answer not known
24. The weight displacement of a boat is designated by the symbol
- (A) Triangle
 - (B) Inverted Triangle
 - (C) Round
 - (D) Square
 - (E) Answer not known

25. The light ship weight of a steel boat and that of equivalent size of wooden boat

- (A) will not differ significantly (B) will differ significantly
(C) will remain same (D) can not be compared
(E) Answer not known

26. Skin of the steel boat hull is

- (A) Planking (B) Plating
(C) Framing (D) Caulking
(E) Answer not known

27. Choose the right answer among type :

Which of the following statements are true about stability of fishing vessels?

- (i) Permanent Transverse inclination is called as Trim.
(ii) Temporary Transverse inclination of the boat is called as Heel.
(iii) Transverse Oscillation of the boat is called as List.
(iv) Longitudinal Oscillation is called as Pitching.

- (A) (i) only (B) (iii) only
 (C) (ii) and (iv) only (D) (i) and (iii) only
(E) Answer not known

28. The width of the ship at the widest point is called

- (A) Trim (B) Camber
(C) Fender (D) Beam
(E) Answer not known

29. If the propeller is overloaded it may lead to erosion of blades called
- (A) Slip ~~(B) Cavitation~~
 (C) Speed of advance (D) Pitch
 (E) Answer not known
30. The additional weight required to immerse the ship by an additional centimetre is called
- (A) Trim (B) List
 (C) Pitching ~~(D) TPC~~
 (E) Answer not known
31. Match the antibiotic and chemical dosage used for the treatment of fish infected with water mould disease. Choose the rightly matched type.
- | | | |
|----------------------|---|---------------|
| 1. CuSO ₄ | – | 1 : 2000 soln |
| 2. Tetramycine | – | 7.5 g |
| 3. Acriflavin | – | 7 g |
| 4. Dipterex | – | 0.25 ppm |
- (A) 1 and 3 are correct
~~(B) 1 only~~
 (C) 2 and 3 are correct
 (D) 3 and 4 are correct
 (E) Answer not known
32. The ideal fishing gear to carryout the fishery resource survey is
- ~~(A) Demersal trawl net~~ (B) Gill net
 (C) Long line (D) Purse seine
 (E) Answer not known

33. Choose the right matches among type:

1. Wedged – Held tightly by a mesh around the body.
2. Gilled – Mesh caught behind the gill cover.
3. Tangled – Held tightly by a mouth region.
4. Snagged – Held in the maxillaries.

- (A) 1 and 3 are correct
(B) 1 and 2 are correct
(C) 2 and 3 are correct
(D) 3 and 4 are correct
(E) Answer not known

34. In these nets, the fish are surrounded from sides and from below:

- (i) Purse Seine
- (ii) Lambaranet
- (iii) Beach Seine

- (A) (i) only
(B) (i) and (ii) only
(C) (i) and (iii) only
(D) (ii) and (iii) only
(E) Answer not known

35. Which of the following is used to prevent twisting and kinking of lines?

- (A) Thimble
(B) Shackle
(C) Swivel
(D) Hook
(E) Answer not known

36. The most suitable type of otter board for one boat midwater trawling is
- (A) Rectangular flat otter board
 - (B) Rectangular vertically curved otter board
 - (C) Oval otter board
 - (D) Vee type otter board
 - (E) Answer not known
37. The direction of twist of twine and rope is designated by the symbols
- (A) S and Z
 - (B) N and T
 - (C) K and M
 - (D) A and B
 - (E) Answer not known
38. The devices which give horizontal opening to the trawl net are called
- (A) Kelley's eye
 - (B) Wings
 - (C) Otter boards
 - (D) Flappers
 - (E) Answer not known
39. Aluminium floats can be used in fishing nets at a maximum depth of about
- (A) 70 metres
 - (B) 200 metres
 - (C) 300 metres
 - (D) 250 metres
 - (E) Answer not known

40. The forward extension of netting on both side of trawl mouth for guiding the fish towards the bag of the net are called as
- (A) Quarters (B) Jibs
~~(C)~~ Wings (D) Side Panels
(E) Answer not known
41. Choose the right fibre type and their source of origin:
1. Seed fibre – Cotton
2. Bast fibre – Jute
3. Leaf fibre – Indian Hemp
4. Fruit fibre – Sisal
- ~~(A)~~ 1 and 2 (B) 2 and 3
(C) 1 and 3 (D) 3 and 4
(E) Answer not known
42. The aquatic plant that used as a nitrogenous biofertilizer in aquaculture is
- (A) Eichornia sp (B) Lemna sp
~~(C)~~ Azolla sp (D) Pistia sp
(E) Answer not known
43. Gold fish have this mode/feature of reproduction
- (A) Live true bearer ~~(B)~~ Egg – layer
(C) Ovo – viviparous (D) Sterile
(E) Answer not known

44. This is an aquatic plant

- (A) Vallisneria sp. (B) Euterpina sp.
(C) Brachydanio sp. (D) Colisa sp.
(E) Answer not known

45. In Costiasis, heavy infestation is due to the parasite of the genus.

- (A) Castia (B) WSSV
 (C) Costia (D) Infusoria
(E) Answer not known

46. Spring Viremia of Carp (SVC) is caused by

- (A) Rhabdo virus of carp (B) Rheo virus
(C) White spot virus (D) Lymphocystis
(E) Answer not known

47. Aeromonas Hydrophila, a bacterial pathogen causes this condition in fish.

- (A) Haemorrhage (B) Red mouth disease
 (C) Dropsy (D) Furunculosis
(E) Answer not known

48. Lack of oxygen in water causes _____ in fishes.

- (A) Nitrite poisoning (B) Sulphide poisoning
 (C) Asphyxiation (D) Ammonia poisoning
(E) Answer not known

49. The pH of the soil which is considered to be the most productive for fish culture is
- (A) 7.5 – 8.0 (B) 6.5 – 7.0
(C) 8.5 – 9.0 (D) 5.5 – 6.0
(E) Answer not known
50. During the purification of water, if chlorine is applied beyond the stage of break point, then the water is called as
- (A) Double Chlorinated (B) Super Chlorinated
(C) Post Chlorinated (D) Pre Chlorinated
(E) Answer not known
51. What is 'Daphnia'?
- (A) It is a bottom feeder, filtration can reach a rate of 100% of the volume per day.
(B) It is a bottom feeder, filtration can reach a rate of 50% of the volume per day.
(C) It is a filter feeder, filtration can reach a rate of 50% of the volume per day.
 (D) It is a filter feeder, filtration can reach a rate of 100% of the volume per day.
(E) Answer not known
52. Which of the following is blue green algae?
- (A) Trichodesmium sp (B) Ceratium sp
(C) Peridinium sp (D) Prorocentrum sp
(E) Answer not known

53. The dosage of cow dung usage as organic fertilizer in fish ponds is
- (A) 2000 – 3000 kg/ha (B) 5000 – 15,000 kg/ha
(C) 1000 – 2000 kg/ha (D) 16,000 – 20,000 kg/ha
(E) Answer not known
54. Zooplankters that exhibit the diurnal movement
- (A) Rotifera (B) Diffugia
(C) Oscillatoria (D) Cladocera
(E) Answer not known
55. Chanos Chanos is popularly known as
- (A) Grey fish (B) Brown fish
(C) Milk fish (D) Black fish
(E) Answer not known
56. Maximum holding time under chilled condition prior to freezing for various fish species are
- (A) Cod : 3 days; Haddock : 2 days; Herring : 1 day; Hake : 1 day
(B) Cod : 2 days; Haddock : 3 days; Herring : 1 day; Hake : 2 days
(C) Cod : 1 day; Haddock : 1 day; Herring : 2 days; Hake : 3 days
(D) Cod : 3 days; Haddock : 3 days; Herring : 1 day; Hake : 2 days
(E) Answer not known
57. Example for Eco carp hatchery is
- (A) Circular chinese hatchery (B) Jar hatchery
(C) Bund hatchery (D) FRP hatchery
(E) Answer not known

58. A very Carmon combination of Catla rohu mrigal in composite fish culture is in the ratio of

- (A) 3: 3: 4 (B) 3: 4: 4
(C) 4: 3: 3 (D) 4: 4: 3
(E) Answer not known

59. The scientific name of Cauvery carp is

- (A) Labeo Fimbriatus (B) Catla Catla
 (C) Labeo Kontius (D) Cirrhinus Cirrhora
(E) Answer not known

60. Which soil is most suitable for fish farm practices?

- (A) Silty clay (B) Clay loam
(C) Sandy soil (D) Sandy clay
(E) Answer not known

61. Acid sulphate soil have a high amount of

- (A) Pyrite a disulphide (B) Zeolite
(C) Ammonium chloride (D) Sodium chloride
(E) Answer not known

62. A ring shaped personal life saving appliance carried on board a vessel is called

- (A) Life Buoyant apparatus (B) Life boat
 (C) Life buoy (D) Life jacket
(E) Answer not known

63. Write the following statement is true about life raft:

- (i) Life raft should be able to withstand exposure for 30 days in sea water condition.
- (ii) Life raft should be automatically erected when life jacket is launched and water borne.
- (iii) The capacity of life raft is never less than 6 persons.

- (A) (i) only
- (B) (ii) and (iii) only
- (C) (iii) and (i) only
- ~~(D)~~ (i), (ii), (iii) are correct
- (E) Answer not known

64. As per 11th Schedule of MSA (LSA) rules (1978) a life buoy should have the minimum capacity to support 14.5 kg in fresh water for

- ~~(A)~~ 24 hrs
- (B) 48 hrs
- (C) 72 hrs
- (D) 64 hrs
- (E) Answer not known

65. Write the following statement is correct about fire triangle:

- (i) Starvation means removal of heat from the fire triangle.
- (ii) Cooling means adding of ice water on the fire triangle.
- (iii) Smothering means removal of air from the fire triangle.

- (A) (i) only
- (B) (i) and (iii) only
- (C) (ii) and (iii) only
- ~~(D)~~ (iii) only
- (E) Answer not known

66. Choose the right matches among type :

- | | |
|--|---|
| 1. Freezing of fish | – After rigor mortis is good |
| 2. In freezing of fish | – Faster freezing process is linked to the formation of smaller ice crystals. |
| 3. Higher temperature in fish freezing | – Smaller ice crystals formation |
| 4. Slow freezing process | – Poor, quality frozen fish |
- (A) 1 and 4 are correct
(B) 1 and 2 are correct
(C) 2 and 3 are correct
 (D) 2 and 4 are correct
(E) Answer not known

67. Latitude is followed by the letters

- (A) N or S (B) E or W
(C) E (D) W
(E) Answer not known

68. If a fishing vessel exhibits two all round lights in a vertical line, the upper being green and lower being white, it infers that the vessel is engaged in

- (A) Purse Seining (B) Other than trawling
 (C) Trawling (D) Gill netting
(E) Answer not known

69. The Ornamental fish which is used for the control of mosquito larvae is

- (A) Molly (B) Sword tails
 (C) Guppy (D) Angel fish
(E) Answer not known

70. The Emergency Position Indicating Radio Beacon (EPIRB) transmits the coded message to the earth station via satellite with the frequency of

- (A) 206 MHz (B) 306 MHz
(C) 106 MHz (D) 406 MHz
(E) Answer not known

71. Write the following statement is true in fire extinguisher?

- (i) Dry chemical is used only in class 'A' fire.
(ii) Dry chemical is used only in class 'B' fire.
(iii) Dry chemical is used only in class 'C' fire.
(iv) Dry chemical powder is used in all type of fire.
- (A) (i) only (B) (ii) only
(C) (iii) only (D) (iv) only
(E) Answer not known

72. The coding colour for foam type fire extinguisher is
- (A) Red
 - (B) ~~Cream~~
 - (C) Blue
 - (D) Black
 - (E) Answer not known
73. The hoisting of International code signal flags N & C indicates that the vessel is
- (A) safe
 - (B) ~~indistress~~
 - (C) having a pilot
 - (D) anchored
 - (E) Answer not known
74. A circle on a sphere whose plane does not pass through the centre is called
- (A) ~~Small circle~~
 - (B) Great circle
 - (C) Big circle
 - (D) Equator
 - (E) Answer not known
75. One Nautical Mile is equal to
- (A) 1.852 m
 - (B) 1852 feet
 - (C) 1852 km
 - (D) ~~1.852 km~~
 - (E) Answer not known

76. Choose the right matches among type:

- | | | | |
|----|------------------|---|--|
| 1. | Magnetic Compass | – | Repeater compasses |
| 2. | Gyro Compass | – | Binnacle |
| 3. | Compass Bowl | – | Least affected by pitching and rolling |
| 4. | Compass Card | – | Shows the direction on ship's head by lubber point |

- | | |
|-------------------------|------------------------------------|
| (A) 1 and 3 are correct | (B) 1 and 2 are correct |
| (C) 2 and 3 are correct | (D) 3 and 4 are correct |
| (E) Answer not known | |

77. Annual publication containing tide table and all information connected with navigation is called

- | | |
|---------------------------------|------------------------|
| (A) Nautical Almanac | (B) Notices to Mariner |
| (C) Tidal chart | (D) Consol chart |
| (E) Answer not known | |

78. The deflection of the compass needle from Magnetic North due to vessels fittings and electrical equipments is called as

- | | |
|----------------------|--------------------------|
| (A) Index error | (B) Compass error |
| (C) Variation | (D) Deviation |
| (E) Answer not known | |

79. Which of the following statement is true?

- (i) Nautical mile is used to measure the distance used by navigators at sea and air.
- (ii) One Nautical mile is equal to 1852 km.
- (iii) 1 knot is speed of one nautical mile/hr.
- (A) (i) only
- (B) (i) and (iii) only
- (C) (ii) only
- (D) (i) and (ii) only
- (E) Answer not known

80. Marks used in the buoyage system not primarily intended to assist navigation but to indicate a special area or feature whose nature may not be apparent from chart or other nautical documents are

- (A) Safe water marks
- (B) Special marks
- (C) Lateral marks
- (D) Cardinal marks
- (E) Answer not known

81. Unit of speed in navigation is

- (A) Nautical mile
- (B) Knot
- (C) km/h
- (D) m/s
- (E) Answer not known

82. After the republican periods, nautical technology was underlie the relationship constraints between
- (A) Ship architecture and environmental constraints.
 - (B) Merchant ships and upwind.
 - (C) Sailing and ship architecture.
 - (D) Environmental constraints and merchant ship.
 - (E) Answer not known
83. The buoy marks used to indicate well defined channels are called as
- (A) Special marks
 - (B) Safe water marks
 - (C) Lateral marks
 - (D) Cardinal marks
 - (E) Answer not known
84. Highest priority brackish water organisms having high growth rate and can tolerate fluctuations of temperature is
- (A) Tarpon
 - (B) Channel catfish
 - (C) Tiger prawn
 - (D) Mollies
 - (E) Answer not known
85. The blooming of the diatom Fragilaria sp indicates the abundance of
- (A) Indian Mackerel
 - (B) Anchories
 - (C) Indian oil sardine
 - (D) Scads
 - (E) Answer not known

86. In Maximum Sustainable Yield (MSY) formula $xMBO$ exists to

1. Estimate of the virgin unexploited biomass
 2. Estimate the Biomass
 3. Estimate the Mortality
 4. Estimate the instantaneous natural mortality rate
- (A) 1 and 3 are correct (B) 1 and 2 are correct
(C) 2 and 3 are correct ~~(D) 1 and 4 are correct~~
(E) Answer not known

87. The weight of gametes represents the percentage of the flesh for a two year old cupped oysters is

- (A) 70% ~~(B) 60%~~
(C) 80% (D) 30%
(E) Answer not known

88. The instantaneous rate of Natural Mortality is denoted by

- ~~(A) M~~ (B) N
(C) Z (D) F
(E) Answer not known

89. In Von Bertalanffy's growth equation, 'to' denotes

- (A) Growth coefficient (B) Age of fish
~~(C) Arbitrary origin of growth~~ (D) Condition factor
(E) Answer not known

90. In this length – based Von – Bertalanfy growth equation, what does “to” indicates:

$$Lt = L_{\infty} \left[1 - \exp(-k^*(t - t_0)) \right]$$

- (i) Arbitrary origin of growth
 - (ii) Growth coefficient
 - (iii) Age coefficient
 - (iv) Growth rate/Growth time
- (A) (i), (iii) and (iv) only (B) (ii), (iii) and (iv) only
- (C) (i), (ii) and (iv) only ~~(D) (i) only~~
- (E) Answer not known

91. One of the following does not fall under crustacean fishery resource of India.

- (A) Prawns (B) Lobsters
- (C) Crabs ~~(D) Edible oyster~~
- (E) Answer not known

92. Sea weeds have high content of

- (A) Proteins ~~(B) Phycocolloids~~
- (C) PUFA (D) Alkaloids
- (E) Answer not known

93. Which one of the following Cephalopod is called “Master of the Arabian Sea”?

- (A) Loligo Duvauceli (B) Sepia Pharaonis
- (C) Octopus Membranaceous ~~(D) Sthenoteuthis Oualaniensis~~
- (E) Answer not known

94. 'Mahseer' is the popular name for
(A) Salmo sp
(C) Schizothorax sp
(E) Answer not known
(B) ~~Tor~~ sp
(D) Nemacheilus sp
95. 'Shoe Dhoni' is used for collection of bivalves in
(A) Cochin backwater
(C) Pulicat lake
(E) Answer not known
(B) Chilka lake
(D) ~~Kakinada~~ bay
96. The scientific name of Indian Pearl Oyster is
(A) Cransostrea Madraseuris
(C) Perna viridis
(E) Answer not known
(B) ~~Pinctada fucata~~
(D) Meretrix easta
97. Which was used as a sensitive test animal for pollution tests by Ellis (1937)?
(A) ~~Daphnia~~
(C) Guppy
(E) Answer not known
(B) Tilapia
(D) Bivalve
98. The Dwindling population of Irrawaddy Dolphins found in which of the following lake
(A) Vembhanad lake
(C) Loktak lake
(E) Answer not known
(B) ~~Chilka~~ lake
(D) Kolleru lake

99. The characteristics of “Trophic Depression” in reservoir

- (i) It is caused by gradual diminishing of the rate of nutrient release.
- (ii) It is due to the blanketing effect of reservoir bed by continuous sedimentation.
- (iii) It is due to decrease in the volume of the impounded water.

- (A) (i) only
- (B) (ii) and (iii) only
- (C) (i) and (ii) only
- (D) (i) and (iii) only
- (E) Answer not known

100. Bombay duck fishery is an important fishery in

- (A) Coromandal coast
- (B) Bombay and Saurashtra coast
- (C) Gulf of Mannar and cape camerian
- (D) Andhra and Bengal coast
- (E) Answer not known

101. The black clam, Villorita Cyprinoider is abundant in

- (A) Asthamudi lake
- (B) Chilka lake
- (C) Pulicat lake
- (D) Vembanad lake
- (E) Answer not known

102. Of the estimated marine fisheries potential in the EEZ of India, 70% is constituted by

- (A) Pelagic resources
- (B) Demersal resources
- (C) Crustacean resources
- (D) Offshore resources
- (E) Answer not known

103. The Steep and Torrential upper course of the riverine system is called as
- (A) Potamon (B) Epilimnion
 (C) Rhithron (D) Hypolimnion
 (E) Answer not known
104. Which of the following is an information network forms an integral part of both the GMDSS and World Wide Navigational Warning Service (WWNWS) operated by International Maritime Organisation (IMO)?
- (A) Digital Selective Calling (DSC) (B) Sarsat
 (C) Inmarsat (D) Navtex
 (E) Answer not known
105. Match correctly the function of components of Echo sounder:
- (i) Transmitter – Convert electrical energy to soundwave
 (ii) Receiver – Display Echos on CRT
 (iii) Recorder – Generates high voltage electric pulse
 (iv) Transducer – Amplification of weak electrical oscillations
- (A) (iii), (iv), (i), (ii) (B) (iii), (iv), (ii), (i)
 (C) (i), (ii), (iii), (iv) (D) (ii), (iii), (iv), (i)
 (E) Answer not known
106. A special feature of echo sounder to distinguish the bottom dwelling fishes from the bottom of sea is known as
- (A) Time Varied Gain (B) White line
 (C) Depth sounding (D) Sector Scanning
 (E) Answer not known

107. The sound wave with frequencies beyond _____ cycles per second is called as Ultra Sonic Sound.

- (A) 200 (B) 2000
 (C) 20,000 (D) 20
(E) Answer not known

108. Write the following statement is true about radio wave propagation.

- (i) Low frequency – Ground Wave
(ii) Medium frequency – Sky Wave
(iii) Very high frequency – Direct line of Sight
(A) (i) only (B) (ii) only
 (C) (ii) and (iii) only (D) (i), (ii) and (iii) are correct
(E) Answer not known

109. The capacity of a battery cell is rated in

- (A) Volt (B) Ampere – hours
(C) Watt – hours (D) Ohm
(E) Answer not known

110. Which of the following rule is used for the motors to find direction of movement of a current carrying conductor when placed in a magnetic field?

- (A) Faraday's rule (B) Lenz's rule
 (C) Ohm's rule (D) Fleming's left hand rule
(E) Answer not known

111. When a glass rod is rubbed with silk cloth, the electricity is produced due to

- (A) Friction
- (B) Heat
- (C) Light
- (D) Magnetism
- (E) Answer not known

112. Reason and Assertion type:

Assertion [A]: Sluice, a water control structure allows water in and out the pond.

Reason [R]: Sluice can act both as inlet and outlet

- (A) [A] is true but [R] is false
- (B) Both [A] and [R] are true
- (C) Both [A] and [R] are false
- (D) [A] is false but [R] is true
- (E) Answer not known

113. The device that converts torque to thrust in a fishing boat is called

- (A) Rudder
- (B) Propeller
- (C) Quadrant plate
- (D) Stern tube
- (E) Answer not known

114. The formula $\frac{PLAN}{4500}$ where
- P = Mean effective pressure in kg/cm²
 L = Length of stroke in m
 A = Area of piston in cm²
 N = Number of power stroke per min is used to estimate
- (A) SHP (B) EHP
 (C) IHP (D) BHP
 (E) Answer not known
115. In small marine diesel engines, the lubricant oil has to be replaced with fresh oil after
- (A) every 250 hrs of running (B) every 500 hrs of running
 (C) every 1000 hrs of running (D) every 3000 hrs of running
 (E) Answer not known
116. In four stroke diesel engine the inlet and exhaust valves remain closed during the action of the
- (A) Spring (B) Push rod
 (C) Cam (D) Cam follower
 (E) Answer not known
117. In four stroke diesel engine, actually the inlet valve opens
- (A) 15 degree after TDC (B) 15 degree before TDC
 (C) 20 degree after BDC (D) 10 degree before TD
 (E) Answer not known

118. Spindle is a part of

- (A) Fuel Injector (B) Fuel Pump
(C) Governor (D) Cylinder block
(E) Answer not known

119. SBE stands for

- (A) Single Buoy Engines (B) Stand By Engines
(C) Single By Engines (D) Stand Buoy Engines
(E) Answer not known

120. In air starting system the compressed air from the air bottle passes into the cylinder head by a valve namely

- (A) outlet valve (B) inlet valve
 (C) starting valve (D) transfer valve
(E) Answer not known

121. One pair of maxillary barbel and two pairs of mandibulatory barbels are found in

- (A) Ariidae (B) Mullidae
(C) Polynemidae (D) Platycephalidae
(E) Answer not known

122. According to the United Nations Convention on law of the sea, the EEZ concept was introduced during the year

- (A) 2000 (B) 2006
 (C) 1976 (D) 1876
(E) Answer not known

123. EEZ act 1976 ensures exclusive right to exploit the living and non living sources comprising _____ km².
- (A) 2.12 million (B) 2.02 million
(C) 2.20 million (D) 2.22 million
(E) Answer not known
124. EEZ stands for
- (A) Expensive Economic Zone (B) Exclusive Economic Zone
(C) Extensive Economic Zone (D) Exploited Economic Zone
(E) Answer not known
125. _____ draws on fisheries science in order to find ways to protect the fishery resources so that sustainable exploitation is possible.
- (A) Fisheries Management (B) Fisheries Administration
(C) Fisheries Planning (D) Fisheries Policy
(E) Answer not known
126. Write the stage of extension programme "Careful execution of the work programme" is implemented.
- (A) I (B) II
(C) III (D) IV
(E) Answer not known
127. The specialized form of BRD designed to exclude Turtle in trawl net catch is
- (A) TED (B) FAD
(C) CAD (D) SAT
(E) Answer not known

128. _____ can be regarded as the mental processes resulting in the selection of a course of action among several alternatives.
- (A) Decision making (B) Coordination
(C) Supervision (D) Administration
(E) Answer not known
129. There is no _____ closed season as the period and duration as well as the type of fishing craft or fishing banned varied from State to State.
- (A) declared (B) conditional
(C) uniform (D) partial
(E) Answer not known
130. How the fisherman get benefits from fishery management?
- (A) By increased seed production (B) By fishing holydays
(C) By increased total production (D) By increasing the product price
(E) Answer not known
131. If too many small fishes are harvested due to excessive effort and poor selectivity, it will lead to
- (A) Recruit overfishing (B) Growth overfishing
(C) Economic overfishing (D) Ecosystem overfishing
(E) Answer not known
132. Limiting the number of fishing units will result in
- (A) Control on catch (B) Increased total catch
(C) Capture at MSY level (D) Selective fishing
(E) Answer not known

133. Catch curve of fish from the natural environment can be used to estimate its
- (A) Instantaneous natural mortality co-efficient (M)
 - (B) Total instantaneous mortality co-efficient (Z)
 - (C) Instantaneous fishing mortality co-efficient (F)
 - (D) Yield per recruit (Y/R)
 - (E) Answer not known
134. To replenish and sustain the natural stock, it is necessary to have a large number of
- (A) Juveniles
 - (B) Matured fishes
 - (C) Spent fishes
 - (D) Eggs and larvae
 - (E) Answer not known
135. Fish eye is a device that facilitate the escapement of _____ from cod end of trawl.
- (A) over sized fishes
 - (C) under sized fishes
 - (B) flat fishes
 - (D) sea snakes
 - (E) Answer not known
136. The constant of proportionality between 50% retention length of a fish in trawl cod end and stretched cod end mesh size is called
- (A) K
 - (C) Selection factor
 - (B) Selection range
 - (D) C
 - (E) Answer not known

137. The exploitation ratio (E) of fish stock can be estimated by the relation
- (A) $E = F/Z$ (B) $E = Z/F$
 (C) $E = M/F$ (D) $E = F/M$
 (E) Answer not known
138. The fishing mortality rate which if applied constantly would result in maximum sustainable yield is denoted by the acronym
- (A) MSY (B) FMSY
 (C) BMSY (D) MEY
 (E) Answer not known
139. The quantity of water vapour present in the atmosphere is denoted by the Meteorological parameter known as
- (A) Fog (B) Haze
 (C) Humidity (D) Mist
 (E) Answer not known
140. Assertion [A]: Moist air is lighter than dry air at constant temperature and pressure.
- Reason [R]: When the volume of air is made moister, heavy molecules such as N_2 and O_2 are replaced with lighter molecule, H_2O .
- (A) [A] is true but [R] is false
 (B) Both [A] and [R] are true; and [R] is the correct explanation of [A]
 (C) [A] is false, [R] is true
 (D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]
 (E) Answer not known

141. Which of the following are low clouds?

(i) Cumulus

(ii) Stratus

(iii) Strato Cumulus

(iv) Alto stratus

(A) (i) and (ii) only

(B) (ii) and (iii) only

(C) (i) and (iii) only

(D) (i), (ii) and (iii) only

(E) Answer not known

142. Pressure in the ocean increases 1 atmosphere for each

(A) 1 meter of depth

(B) 10 meter of depth

(C) 100 meter of depth

(D) 1000 meter of depth

(E) Answer not known

143. A series of parallel, counter rotating circulation cells with long axes aligned parallel to the direction of the generating wind has been categorized as

(A) Laminar flow

(B) Langmuir circulation

(C) Dispersion

(D) Convergence

(E) Answer not known

144. A popular warm water current said to be responsible for the reduced population of anchovies in the coastal waters of peru is called

(A) EI Nino current

(B) La Nina current

(C) Alaska current

(D) California current

(E) Answer not known

145. The combination of one high and one low water mark during a tidal day is known as
- (A) Tidal bore
 - (B) Diurnal tide
 - (C) Semi diurnal tide
 - (D) Mixed semidiurnal tide
 - (E) Answer not known
146. The waves with less than 1.7 cm wave length and period less than 0.1 second are called
- (A) Capillary waves
 - (B) Gravity waves
 - (C) Tidal waves
 - (D) Surface waves
 - (E) Answer not known
147. The lowest range of the tide occurring near the times of the first and last quarter of the moon is
- (A) low tide
 - (B) high tide
 - (C) neap tide
 - (D) spring tide
 - (E) Answer not known
148. The apparent force resulting from rotation of the earth, which causes wind deflection is known as
- (A) Coriolis acceleration
 - (B) Cyclone
 - (C) Trade winds
 - (D) Coriolis force
 - (E) Answer not known

149. The imaginary contour lines that connect points of equal water temperature is termed as
- (A) Isohalines (B) Isobars
 (C) Isotherms (D) Mesotherms
(E) Answer not known
150. The tidal pattern with one high tide and one low tide in each lunar day is called as
- (A) diurnal tidal pattern (B) semidiurnal tidal pattern
(C) mixed tidal pattern (D) daily tidal pattern
(E) Answer not known
151. The shallow water zone that extends from the intertidal zone to the edge of the continental shelf is
- (A) Oceanic zone (B) Epipelagic zone
(C) Mesopelagic zone (D) Neritic zone
(E) Answer not known
152. The gauges mounted on platforms or on the sea floor in shallow water to measure
- (A) Wave height (B) Tidal potential
(C) Current velocity (D) Wind speed
(E) Answer not known

153. A Katabatic wind that blows over the North and East of the Adriatic sea from a direction between North and East is called
- (A) Gregale (B) Mistral
(C) Pampero (D) Bora
(E) Answer not known
154. A strong current for short duration flowing seaward from the shore is called as
- (A) drift current (B) ebb current
 (C) rib current (D) long shore current
(E) Answer not known
155. The cause for Tsunami is due to
- (A) Wind (B) Seismic Upheaval
(C) Pressure change (D) Gravity of sun and moon
(E) Answer not known
156. A wave with gravity as the restoring force
- (A) Rogue wave (B) Wave base
 (C) Gravity wave (D) Wave separation
(E) Answer not known
157. Agulhas current flows in the
- (A) Indian Ocean (B) Pacific Ocean
(C) Atlantic Ocean (D) Arctic Ocean
(E) Answer not known

158. One cubic metre of sea water will weigh

- (A) 1 ton
(B) 1.025 ton
(C) 1.25 ton
(D) 0.95 ton
(E) Answer not known

159. Which of the following are true for 3 – Ply retort pouch?

- (i) Outer Ply – Polyester
(ii) Middle Ply – Aluminium
(iii) Inner Ply – Polypropylene
(A) (i) and (ii)
(B) (i) and (iii)
(C) (ii) and (iii)
(D) (i), (ii) and (iii)
(E) Answer not known

160. Which is NOT a functional packaging system?

- (A) Active packaging
(B) MAP
(C) Edible films
(D) Air packaging
(E) Answer not known

161. Bleaching of fish protein concentrate is done by using

- (A) Hydrochloric acid
(B) Hydrogen peroxide
(C) Sodium hydroxide
(D) Sodium hypochloride
(E) Answer not known

162. Squalene is rich in

- (A) Oyster
(B) Clam
(C) Deep sea sharks
(D) Crab
(E) Answer not known

163. The most common form of Chitin is

- (A) β Chitin (B) γ Chitin
(C) ω Chitin ~~(D) α Chitin~~
(E) Answer not known

164. The hydrolyzed form of collagen is

- (A) Chitin ~~(B) Gelatin~~
(C) Glucosamine (D) Astaxanthine
(E) Answer not known

165. This is the by – product which is extracted from skin and bones of the fishes

- (A) Isinglasses ~~(B) Gelatin~~
(C) Fish silage (D) Fish meal
(E) Answer not known

166. Which of the following are general machinery for fish canning?

- (i) Brining Machines
(ii) Exhaust boxes
(iii) Smoking ovens
(A) (i) only (B) (i) and (iii) only
~~(C) (i) and (ii) only~~ (D) (ii) and (iii) only
(E) Answer not known

167. In quick freezing, the time taken for getting over the critical temperature range of 0 to -5°C is _____ minutes.
- (A) 30 (B) 35
(C) 40 (D) 50
(E) Answer not known
168. Which of the following freezing methods have been successful in achieving high quality products evaluated by drip loss and sensory analysis in shrimps and fish fillet?
- (A) Hydro fluidisation (B) Pressure – shift freezing
 (C) Magnetic freezing (D) Impingement freezing
(E) Answer not known
169. Partial securing of can body and can end for heat exhausting is called as
- (A) double seaming (B) can closing
 (C) clinching (D) sealing
(E) Answer not known
170. Thickness of steel plate for can manufacturing
- (A) 0.18 – 0.3 mm (B) 0.35 – 0.5 mm
(C) 0.6 – 0.7 mm (D) 0.8 – 1.0 mm
(E) Answer not known
171. Type of retort mainly used for thermal processing of retort pouches
- (A) over pressure retort (B) steam air retort
(C) agitating retort (D) hydro static sterilizer
(E) Answer not known

172. Which of the factors affect the spoilage rate of a fish?

- (i) Water content
- (ii) Oxygen content
- (iii) Ash content
- (A) (i) only
- (B) (ii) and (i) only
- (C) (i) and (iii) only
- (D) (ii) and (iii) only
- (E) Answer not known

173. During spoilage, the pH of fish muscle

- (A) increase
- (B) decrease
- (C) increase and then decrease
- (D) decrease and then increase
- (E) Answer not known

174. Which of the following compounds breakdown immediately after death of fish?

- (A) Carbohydrate and Nucleotide
- (B) Carbohydrate and Protein
- (C) Protein and Nucleotide
- (D) Protein and Fat
- (E) Answer not known

175. Lowering the water activity below _____ is sufficient to prevent the growth of pathogenic bacteria in fish.

- (A) 0.6
- (B) 0.7
- (C) 0.8
- (D) 0.9
- (E) Answer not known

176. Which one of the following is an aromatic amino acid?

- (A) Valine (B) Leucine
(C) Cystine ~~(D) Tyrosine~~
(E) Answer not known

177. _____ has high glycogen content.

- (A) Shrimp ~~(B) Mussel~~
(C) Crab (D) Fish
(E) Answer not known

178. Write the following fish is herbivorous

- ~~(A) Ctenopharyngodon idella~~ (B) Channa marulius
(C) Wallago attu (D) Tilapia mossambica
(E) Answer not known

179. Proximate composition of fish is not influenced by

- ~~(A) method of catching~~ (B) age of fish
(C) environmental conditions (D) size of fish
(E) Answer not known

180. Proximate composition accounts for _____ of total tissue constituents of fish.

- (A) 90 – 92% (B) 93 – 95%
~~(C) 96 – 98%~~ (D) 99 – 100%
(E) Answer not known

181. Mud – Bank formation is mostly restricted to the region between

- (A) Kanyakumari and Vizhinjam
- (B) Allapetty and Calicut
- (C) Mangalore and Goa
- (D) Vishakapatnam and Bhubaneswar
- (E) Answer not known

182. In an estuary, where sea water rests on the bottom and freshwater flow over the surface of salt water is called

- (A) Partially mixed estuary
- (B) Salt wedge estuary
- (C) Well mixed estuary
- (D) Bar – Built estuary
- (E) Answer not known

183. The Osmoregulatory function in fishes is carried out by

- (i) Kidney
 - (ii) Swembladder
 - (iii) Weberian Ossicle
 - (iv) Gill
- (A) (i) only
 - (C) (i) and (iv) only
 - (E) Answer not known
 - (B) (i) and (iii) only
 - (D) (i), (iii) and (iv) only

184. Flying fishes belong to the family

- (A) Synodontidae
- (B) Exocoetidae
- (C) Hemiramphidae
- (D) Belonidae
- (E) Answer not known

185. During state of stress in fish, the blood flow is regulated by
- (A) Kidney (B) Liver
(C) Nephire ~~(D) Epinephrine~~
(E) Answer not known
186. The ratio between food consumed for per unit weight gained by the body is expressed by
- ~~(A) Food Conversion Rate~~ (B) Food Absorption Rate
(C) Food Consumption Rate (D) Food Assimilation Rate
(E) Answer not known
187. Protandrous hermaphrodite
- (A) Grouper (B) Wrasse
~~(C) Seabass~~ (D) Parrot fish
(E) Answer not known
188. The type of cleavage that occurs in the embryonic development of bony fishes is
- (A) Equal holoblastic cleavage
(B) Unequal holoblastic cleavage
~~(C) Discoidal meroblastic cleavage~~
(D) Superficial meroblastic cleavage
(E) Answer not known

189. Assertion (A): If the production of yolk takes place within oocyte, it is called endogenous vitellogenesis.

Reason (R): Yolk proteins provides maturing oocytes with the metabolic energy required for development.

(A) [A] is true but [R] is false

(B) Both [A] and [R] are true; and [R] is the correct explanation of [A]

(C) [A] is false, [R] is true

(D) Both [A] and [R] are true, but [R] is not the correct explanation of [A]

(E) Answer not known

190. Which of the following is/are not the Carnivorous Fish(es)?

(i) Wallogo Attu

(ii) Channa Striatus

(iii) Notopterus Chitala

(iv) Cyprinus Carpio

(A) (iii) only

(B) (iv) only

(C) (i) and (iv) only

(D) (iii) and (iv) only

(E) Answer not known

191. Which of the following statement is true about "Scopelids"?

(A) Fishes that live in the intermediate and upper layers over great depths

(B) Fishes that live on the surface

(C) Fishes that live near the surface

(D) Fishes that live intermediate only

(E) Answer not known

192. 'Green tiger shrimp' is called

- (A) Penaeus Monodon (B) Penaeus Semisulcatus
(C) Penaeus Penicillatus (D) Parapenaeopsis Stylifera
(E) Answer not known

193. Number of Cranial Nerves in fish is

- (A) 5 pairs (B) 8 pairs
 (C) 10 pairs (D) 12 pairs
(E) Answer not known

194. The gill rakers are numerous and elongated in

- (A) Flat fishes (B) Common carp
 (C) Plankton feeders (D) Tuna
(E) Answer not known

195. Villorita Cyprinoider is a

- (A) Edible oyster (B) Pearl oyster
 (C) Clam (D) Mussel
(E) Answer not known

196. Match the following:

- | | | |
|----------------------------|---|------------------------------|
| (i) Banana Shrimp | – | <u>Penaeus Japonicus</u> |
| (ii) Indian White Shrimp | – | <u>Penaeus Merguensis</u> |
| (iii) Pacific White Shrimp | – | <u>Lito Penaeus Vannamei</u> |
| (iv) Kuruma Shrimp | – | <u>Penaeus Indicus</u> |
- (A) (ii), (iii), (iv) and (i) ~~(B)~~ (ii), (iv), (iii) and (i)
(C) (i), (iv), (iii) and (ii) (D) (i), (iii), (iv) and (ii)
(E) Answer not known

197. Which of the following is correctly paired?

- | | | |
|--------------------------|---|-------------------|
| (i) <u>Sphyrna</u> sp | – | Hammer head shark |
| (ii) <u>Pristis</u> sp | – | Saw fish |
| (iii) <u>Dasyatis</u> sp | – | Electric ray |
| (iv) <u>Rhinodon</u> sp | – | Guitar fish |
- ~~(A)~~ (i) and (ii) only (B) (i) and (iii) only
(C) (ii) and (iii) only (D) (ii) and (iv) only
(E) Answer not known

198. The fishes that have accessory respiratory organ are

- | | |
|------------------------|--|
| (i) <u>Anabas</u> sp | |
| (ii) <u>Clarius</u> sp | |
| (iii) <u>Channa</u> sp | |
| (iv) <u>Chanos</u> sp | |
- (A) (ii) and (iii) only (B) (ii) and (iv) only
~~(C)~~ (i), (ii) and (iii) only (D) (ii), (iii) and (iv) only
(E) Answer not known

199. The length which is measured from tip of snout to the base of the tail is known as

- (A) Total length ✓ (B) Standard length
(C) Fork length (D) Snout length
(E) Answer not known

200. The relationship between the length and weight of the fish is based on

- ✓ (A) Cubic law relationship (B) Natural log relationship
(C) Linear relationship (D) Normal curve relationship
(E) Answer not known
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